EXHIBIT P

Analysis of Infringement of U.S. Patent No. 8,676,538 by Silicon Laboratories, Inc.
(Based on Public Information Only)

Plaintiff Ocean Semiconductor LLC ("Ocean Semiconductor"), provides this preliminary and exemplary infringement analysis with respect to infringement of U.S. Patent No. 8,676,538, entitled "ADJUSTING WEIGHTING OF A PARAMETER READING TO A FAULT DETECTION BASED ON A DETECTED FAULT" (the "'538 patent) by Silicon Laboratories, Inc. ("SILABS"). The following chart illustrates an exemplary analysis regarding infringement by Defendant SILABS' semiconductor products, systems, devices, components, integrated circuits, and products containing such circuits, fabricated or manufactured using Applied Materials, Inc.'s ("Applied Materials") platforms, and/or framework, including Applied Materials' software and APC system, including the E3 platform hardware and/or software (collectively, "E3") and/or other APC system and platform hardware and/or software. Such products include, without limitation, wireless products (e.g., EFR32XG2X family), internet of things products (e.g., EFM8BB10F8G-QFN20, EFM8BB10F2A-QFN20, EFM8BB10F2G-QFN20, EFM8BB10F2I-QFN20, EFM8BB10F4A-QFN20, EFM8BB10F4G-QFN20, EFM8BB10F4I-QFN20, EFM8BB10F8A-QFN20, EFM8BB10F8G-QSOP24, EFM8BB10F8G-SOIC16, EFM8BB10F8I-QFN20, EFM8BB10F8I-QSOP24, EFM8BB10F8I-SOIC16, EFM8BB21F16A-QFN20, EFM8BB21F16G-QFN20, EFM8BB21F16G-QSOP24, EFM8BB21F16I-QFN20, EFM8BB21F16I-QSOP24, EFM8BB22F16A-QFN28, EFM8BB22F16G-QFN28, EFM8BB22F16I-QFN28, EFM8BB31F16A-4QFN24, EFM8BB31F16A-5QFN32, EFM8BB31F16G-QFN24, EFM8BB31F16G-QFN32, EFM8BB31F16G-QFP32, EFM8BB31F16G-QSOP24, EFM8BB31F16I-4QFN24, EFM8BB31F16I-5QFN32, EFM8BB31F16I-QFN24, EFM8BB31F16I-QFN32, EFM8BB31F16I-QFP32, EFM8BB31F16I-QSOP24, EFM8BB31F32A-4QFN24, EFM8BB31F32A-5QFN32, EFM8BB31F32G-QFN24, EFM8BB31F32G-QFN32, EFM8BB31F32G-QFP32, EFM8BB31F32G-QSOP24, EFM8BB31F32I-4QFN24, EFM8BB31F32I-5QFN32, EFM8BB31F32I-QFN24, EFM8BB31F32I-QFN32, EFM8BB31F32I-QFP32, EFM8BB31F32I-QSOP24, EFM8BB31F64A-4QFN24, EFM8BB31F64A-5QFN32, EFM8BB31F64G-QFN24, EFM8BB31F64G-QFN32, EFM8BB31F64G-QFP32, EFM8BB31F64G-QSOP24, EFM8BB31F64I-4QFN24, EFM8BB31F64I-5QFN32, EFM8BB31F64I-QFN24, EFM8BB31F64I-QFN32, EFM8BB31F64I-QFP32, EFM8BB31F64I-QSOP24), infrastructure products (e.g., Si5332A-GM1, Si5332A-GM2, Si5332A-GM3, Si5332B-GM1, Si5332B-GM2, Si5332B-GM3, Si5332C-GM1, Si5332C-GM2, Si5332C-GM3, Si5332D-GM1, Si5332D-GM2, Si5332D-GM3, Si5332E-GM1, Si5332E-GM2, Si5332E-GM3, Si5332F-GM1, Si5332F-GM2, Si5332F-GM3, Si5332G-GM1, Si5332G-GM2, Si5332G-GM3, Si5332H-GM1, Si5332H-GM2, Si5332H-GM3, Si5332A-GM1, Si5332A-GM2, Si5332A-GM3, Si5332B-GM1, Si5332B-GM2, Si5332B-GM3, Si5332C-GM1, Si5332C-GM2, Si5332C-GM3, Si5332D-GM1, Si5332D-GM2, Si5332D-GM3, Si5332E-GM1, Si5332E-GM2, Si5332E-GM3, Si5332F-GM1, Si5332F-GM2, Si5332F-GM3, Si5332G-GM1, Si5332G-GM2, Si5332G-GM3, Si5332H-GM1, Si5332H-GM2, Si5332H-GM3), broadcast products (e.g., Si2160, Si2162, Si2164, Si2180, Si2181, Si2182, Si2183), access products (e.g., Si3000, Si3402-GM, Si3404-GM, Si3406-GM, Si34062-GM, Si3462-GM, Si3471A-IM, microcontrollers (e.g., Tiny Gecko series, EFM8 Busy Bee), buffers (e.g., Si5330x), oscillators (e.g., Si54x), clock generators (e.g., Si534x), jitter attenuators (e.g., Si539x), synchronous ethernet (e.g., Si5383/48/88), isolation products (e.g., Si86xx, Si87xx, Si88xx, Si823x, Si827x, Si828x, Si823Hx, Si890x, Si892x, Si82Hx, Si838x, Si834x, and Si875x), interface products (e.g., ethernet controllers, LC controllers, bridges), timing products (e.g., buffers, clock generators, oscillators, and network synchronizers), sensors (e.g., humidity, magnetic, optical, temperature, and biometric), audio & radio products (e.g., automotive tuners, and radios), power products (e.g., power management ICs, powered drivers, and PSE controllers), TV & video

products (e.g., digital demodulators and TV tuners), modem & DAA products (e.g., voice modems), voice products (e.g., codec, proSLICs, and DAA), power over ethernet devices (e.g., power source equipment and powered device ICs)), and similar systems, products, devices, and integrated circuits (collectively, the "'538 Infringing Instrumentalities").

The analysis set forth below is based only upon information from publicly available resources regarding the '538 Infringing Instrumentalities, as SILABS has not yet provided any non-public information.

Unless otherwise noted, Ocean Semiconductor contends that SILABS directly infringes the '538 patent in violation of 35 U.S.C. § 271(g) by using, selling, and/or offering to sell in the United States, and/or importing into the United States, the '538 Infringing Instrumentalities. The following exemplary analysis demonstrates that infringement. Unless otherwise noted, Ocean Semiconductor further contends that the evidence below supports a finding of indirect infringement under 35 U.S.C. § 271(b) in conjunction with other evidence of liability.

Unless otherwise noted, Ocean Semiconductor believes and contends that each element of each claim asserted herein is literally met through SILABS' provision or importation of the '538 Infringing Instrumentalities. However, to the extent that SILABS attempts to allege that any asserted claim element is not literally met, Ocean Semiconductor believes and contends that such elements are met under the doctrine of equivalents. More specifically, in its investigation and analysis of the '538 Infringing Instrumentalities, Ocean Semiconductor did not identify any substantial differences between the elements of the patent claims and the corresponding features of the '538 Infringing Instrumentalities, as set forth herein. In each instance, the identified feature of the '538 Infringing Instrumentalities performs at least substantially the same function in substantially the same way to achieve substantially the same result as the corresponding claim element.

Ocean Semiconductor notes that the present claim chart and analysis are necessarily preliminary in that Ocean Semiconductor has not obtained substantial discovery from SILABS nor has SILABS disclosed any detailed analysis for its non-infringement position, if any. Further, Ocean Semiconductor does not have the benefit of claim construction or expert discovery. Ocean Semiconductor reserves the right to supplement and/or amend the positions taken in this preliminary and exemplary infringement analysis, including with respect to literal infringement and infringement under the doctrine of equivalents, if and when warranted by further information obtained by Ocean Semiconductor, including but not limited to information adduced through information exchanges between the parties, fact discovery, claim construction, expert discovery, and/or further analysis.

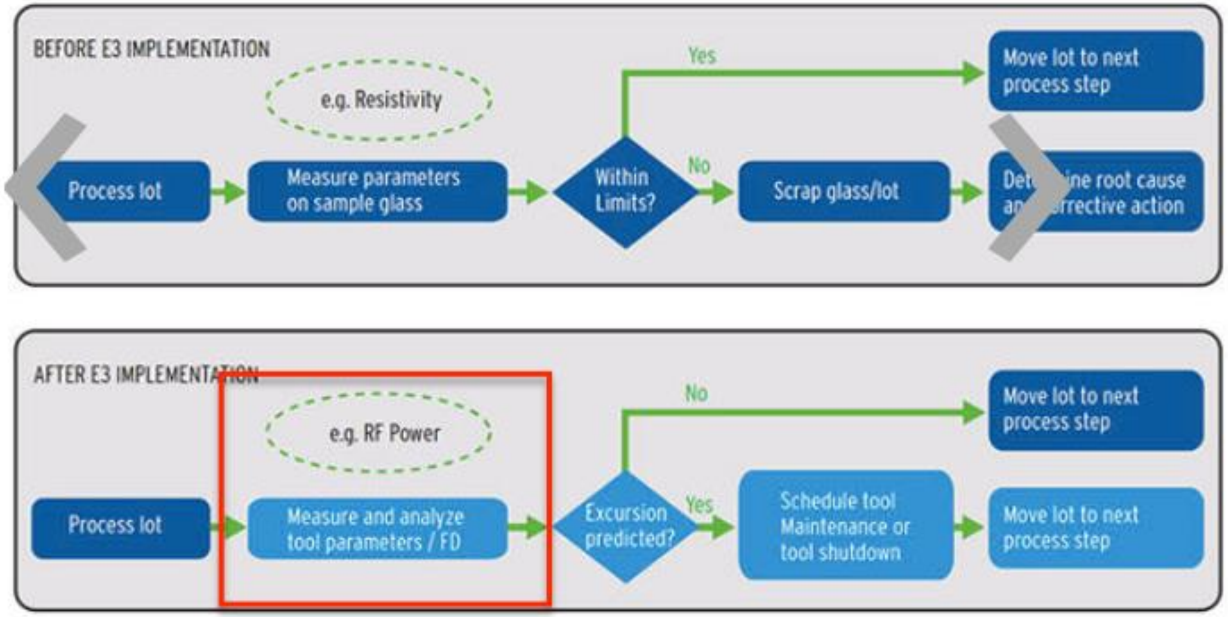
USP 8,676,538	Infringement by the '538 Accused Instrumentalities
1. A method comprising: performing in a computer a fault detection analysis relating to a processing of a workpiece;	To the extent that the preamble of Claim 1 is a limitation, the Applied Materials E3 system performs in a computer a fault detection analysis relating to a processing of a workpiece. For example, the Applied Materials E3 (e.g., including its Fault Detection and Classification ("FDC") module and Run-to-Run ("R2R") module) performs in a computer a fault detection analysis relating to a processing of a wafer, as shown below: "The Applied E3 FDC module is the only fault detection and analysis solution in the market today built on a common platform with integration to statistical process control (SPC), equipment performance tracking (EPT), run to run (R2R) control and advanced data mining (ADM). The FDC module continuously monitors equipment sensors and events against performance metrics using statistical analysis techniques, and provides proactive and rapid feedback on equipment health. Using the E3 FDC module, engineers can analyze sensor data from manufacturing equipment, detect out-of-norm conditions and relate them to problems with tools." *See* Applied E3 FDC Datasheet, *available at* http://www.appliedmaterials.com/files/E3FDCDatasheet.pdf (last visited Oct. 12, 2020). As a further example, Applied E3 is a computer software package, as shown below: "Applied Materials, Inc. today announced its Applied E3™ advanced equipment and process control solution, a comprehensive factory automation (FA) software package for improving the productivity and reducing the costs of semiconductor, flat panel display and photovoltaic solar cell manufacturing." *See* "Applied Materials Launches Breakthrough E3 Equipment and Process Control Solution for Boosting Fab Productivity" ("E3 Press Release"), *available at* https://www.appliedmaterials.com/en-in/company/news/press-releases/2008/07/applied-materials-launches-breakthrough-e3-equipment-and-process-control-solution-for-boosting-fab-productivity (last visited Oct. 12, 2020). As a further example, within an Advanced Processing Control ("APC") system such as Applied E3, fault detection is understood as "[t]he technique of monitoring and analyzing variations in tool and/or process data to detect anomalies." *See* James Moyne and Jimmy Iskandar, "Big Data Analytics for Smart Manufacturing: Case Studies in Semiconductor Manufacturing," *5 Processes 20* (2015), *available at* https://www.mdpi.com/2227-9717/5/3/39 (last visited Oct. 12, 2020). As a further example, E3 performs a fault detection analysis relating to a workpiece, e.g. a wafer:

	"Predict and Prevent. The E3 FDC solution gives process engineers the flexibility to not only perform corrective maintenance, but to also predict and proactively schedule a system for repair before a failure can occur. For example, when data exists for both a known good substrate (e.g., wafer or glass) and a known bad substrate, sensor traces can be superimposed to help identify a potential root cause. Using this type of data-driven troubleshooting approach, predictability of operations increases and tool downtime and unnecessary parts replacements can be significantly reduced." *See* Applied E3 FDC Datasheet.
determining in a said computer a relationship of a parameter relating to said fault detection analysis to a detected fault;	Applied E3 determines in the computer a relationship of a parameter relating to said fault detection analysis to a detected fault. For example, the E3 analyzes equipment parameters based on data collection and logic handling to determine a relationship of a parameter relating to the fault detection analysis to a detected fault, as shown below: "Using an advanced, scalable software architecture, the Applied E3 solution provides a powerful combination of modules. Equipment automation, data collection and logic handling simplify the construction, deployment, and maintenance of automated process control (APC) applications. Fault detection and classification (FDC) collects and analyzes equipment parameters to provide rapid feedback on process performance issues and avoid unexpected failures that decrease productivity. Run-to-run control (R2R) uses patented feedback algorithms to reduce process variability by adjusting processing parameters in real time, enabling more consistent output, higher yield and greater productivity. Equipment performance tracking (EPT) monitors every

processing tool in the factory and provides visual and statistical reporting tools to identify bottlenecks and improve factory performance."

See "E3 Press Release at 1.

See also "Applied SmartFactory Fault Detection and Classification," *available at* https://www.appliedmaterials.com/automation-software/e3-fault-detection-and-classification-fdc (last visited Oct. 12, 2020) (annotated):



Fault detection resulted in reduced scrap and prevented excursions.

See also "Advanced Data Mining Techniques to Improve IC Fab Yield," *available at*

https://www.appliedmaterials.com/nanochip/nanochip-fab-solutions/december-2014/data-mining-techniques (last visited Oct. 12, 2020):

SENSOR NAME	SENSOR UNITS	SENSOR PRIORITY	TYPICAL SAMPLES/ SEC
Bottom Temperature Reading	deg C	P1	2
H_2 Gas Flow	sccm	P1	1
RF Forward Power	W	P1	4
Process Pressure	mtorr	P1	2
Foreline Pressure	mtorr	P2	1
E-Chuck Voltage	V	P2	1
Gas Line Pressure	psi	P3	0.5
Target Life	kWh	P3	0.01
Heat Exchanger Water Temperature	deg C	P4	0.1

Table 1. Tool priority sensor list.

CATEGORY	DEFINITION
P1	Confirmed to have caused a yield or reliability problem
P2	Expected to cause a yield or reliability problem, but not validated
P3	Expected not to cause a yield or reliability problem, but not validated
P4	Known to be a non-issue

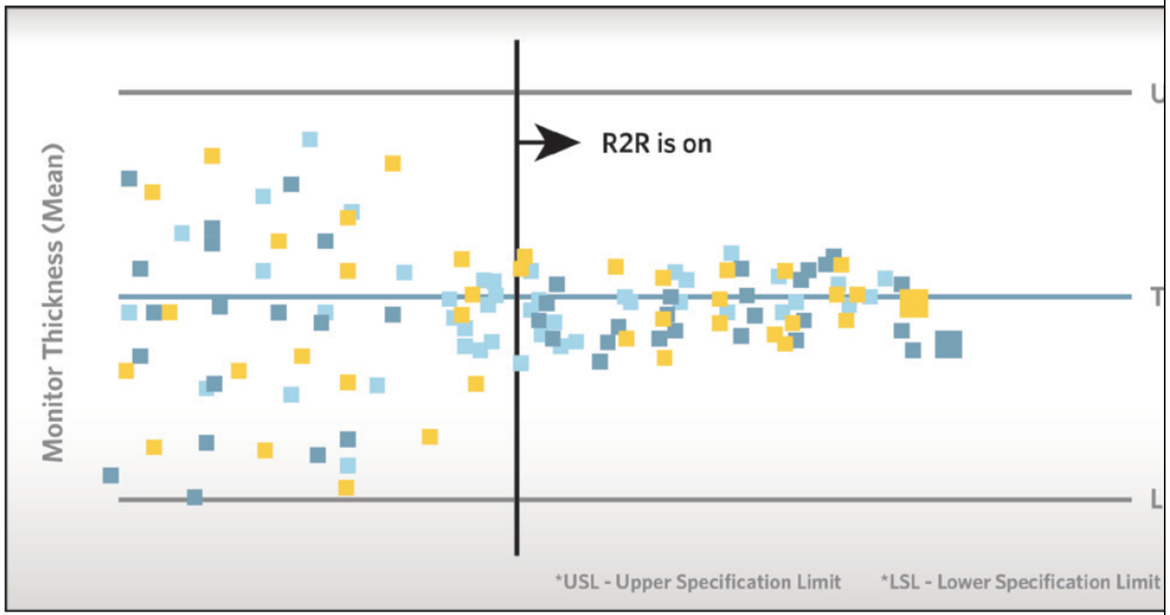
Table 2. Sensor priority definitions.

	See also id. ("Next, a model quality report is generated with the top-ranked variables and their respective contributions (see figure 2). A plot of predicted values vs. actual values (see figure 3) indicates model quality. A high R-squared value, however, may not always indicate the best model fit. Overfitting is not uncommon and should be avoided because it can cost the model its generalizability. Validation is then performed to correct for all hardware-, process- and sequence-related changes required to solve the yield/output issues and also to match chamber-to-chamber performance. Finally, yield-driven control limits are determined and set for each sensor of interest, including derived sensors, and are subsequently monitored for any abnormal behavior.").
adjusting in said computer a weighting of said parameter based upon said relationship of said parameter to said detected fault; and	Applied E3 adjusts in the computer a weighting of said parameter based upon said relationship of said parameter to said detected fault. For example, the E3 "uses patented feedback algorithms to reduce process variability by adjusting processing parameters in real time, enabling more consistent output, higher yield and greater productivity." *See* E3 Press Release. As a further example, the E3 allows "automatic[] . . . adjustments to a process" and "uses metrology data taken at each process step to adjust process recipes," as shown below: "The Applied E3 R2R control module is the only R2R system built on a common platform with integration to statistical process control (SPC), fault detection and classification (FDC), equipment performance tracking (EPT) and advanced data mining (ADM) systems. The module gives process engineers the ability to automatically make adjustments to a process in order to maintain specific properties of the product (for example, wafer thickness or critical dimension) at a required target value. It uses metrology data taken at each process step to adjust process recipes on a run-to-run basis. In addition, integrating with FDC and SPC allows the controller business rules to accommodate process and material excursions seamlessly." *See* Applied E3 R2R Datasheet, *available at* https://www.appliedmaterials.com/files/E3R2RDatasheet.pdf (last visited Oct. 12, 2020). As a further example, the E3 R2R "optimiz[es] recipe parameters from lot-to-lot or wafer-to-wafer based on feedback from process models," as shown below:

	"Automatic Recipe Tuning. The R2R control module improves processing performance and reduces process variability by optimizing recipe parameters from lot-to-lot or wafer-to-wafer based on feedback from process models, incoming variations and metrology. Available at the tool or chamber level, R2R allows customized strategies to be performed in a highly automated fashion. R2R enables lower cost of ownership (CoO) by reducing model management activities through a unified modeling structure approach and advanced patented technology. This technology supports high mix, high complexity manufacturing operations and accommodates missing and out-of-order metrology data." *See id.* at 1. *See also* "Nanochip Fab Solutions: Data Analytics: Finding What Matters" (V9, Issue 2, 2014), *available at* https://www.appliedmaterials.com/files/nanochip-journals/nanochip-fab-solutions-12-2014-revised.pdf (last visited Oct. 12, 2020): "After equipment/chamber PM: In model (1.1), only the equipment offset will be changed after PM. One pilot run may be performed to estimate this step change. One way to perform this estimation is to decrease the weighting of the equipment offset while keeping all other weights high, and performing state estimation on pilot run only." *See also* "Improving Yield with Fleet Chamber Matching," *available at* https://www.appliedmaterials.com/ko/node/3341385 (last visited Oct. 12, 2020): "Depending on the matching goals, this target R2R control recipe can take many forms, including (1) a baseline recipe for a golden tool, (2) the latest R2R control recipe for that golden tool, and (3) a weighted "average" control recipe across the fleet of tools. The latter can be determined from an averaging of R2R recipe advices or an inversion of an average model across the fleet of chambers. When recipe advice is requested from a particular chamber, the E3 R2R controller picks a recipe that is closer to the target R2R control recipe (among an infinite set of choices), as shown in figure 3. The target R2R control recipe is updated as necessary. Relative weighting of variables (among inputs, and between inputs and outputs) can be used to skew the matching process toward variables that are determined to be more important to yield matching." *See also id.* ("In this example we are controlling a single output, e.g., thickness, by tuning two input variables: power and pressure. We have a simple linear model of the chamber and a current operating point (top graph, red line and dot). With traditional R2R control, after a run, the R2R controller identifies a difference between the predicted output and actual output, adjusts the model accordingly, and selects a new operating point that is closest to the previous one (orange line and dot). In chamber-matched control with a fleet of two chambers (bottom graph), we are aware of the model and operating point for chamber 2 (blue line and dot). In this case, after updating the model for chamber 1, we choose an operation point (among an

	infinite set of choices on the line) that is closer to the operating point of chamber 2 (orange line and green dot).”). As another example, Applied Materials discloses, in one of its issued patents, the use of weighting in fault detection and classification: “When new fault detection and classification data and/or a new yield prediction is received, the factory R2R control module 520 can adjust high level parameters to improve the predicted yield. These adjustments may modify targets and/or settings of one or more inter-process level control modules (e.g., the uniformity R2R control module 525, the CD R2R control module 530, etc.) and/or process level control modules (e.g., the deposition R2R control module 535, the CMP R2R control module 540, the lithography R2R control module 545, the etch R2R control module 550, etc.). In turn, the inter-process level control modules can adjust parameters to coincide with new targets and/or settings provided by the factory R2R control module 520, which may cause further changes to targets and/or settings of the process level control modules. The process level R2R control modules may then adjust parameters of individual recipes, manufacturing machines, etc. in response to the new targets and settings. For example, the deposition R2R control module 535 may adjust parameters of one or more deposition manufacturing machines, the CMP R2R control module 540 may adjust parameters of one or more CMP manufacturing machines 560, etc. In one embodiment, an inter-process level uniformity R2R control module 525 controls uniformity between CMP and etch processes. The uniformity R2R control module 525 adjusts CD targets, controller gains, and weighting of objective parameters (outputs) of the CMP R2R control module 540 and the etch R2R control module 550 so as to control post-etch CD. The uniformity R2R control module 525 receives one or more actions caused by a predicted yield excursion event that predicts that post-lithography there will be a yield issue due to lack of CD uniformity. The uniformity R2R control module 525 adjusts the targeting and weighting of the uniformity objective for the subsequent etch R2R control module 550. In response, the etch R2R control module 550 adjusts recipe parameters on an etch machine 570 to bring them in line with the new targeting and weighting, thus preventing yield loss due to CD non-uniformity.” *See* U.S. Patent No. 7,974,723, at 15:3-39.
performing in said computer the fault detection analysis relating to processing of a subsequent workpiece using said adjusted weighting.	Applied E3 performs in the computer fault detection analysis relating to processing of a subsequent workpiece using adjusted weighting. For example, E3 performs in the computer fault detection analysis relating to processing of a subsequent workpiece using adjusted weighting, as shown below: “Predict and Prevent. The E3 FDC solution gives process engineers the flexibility to not only perform corrective maintenance, but to also predict and proactively schedule a system for repair before a failure can occur. For example, when data exists for both a known good substrate (e.g., wafer or glass) and a known bad substrate, sensor traces can be superimposed to help identify a potential root cause. Using this type of data-driven troubleshooting approach, predictability of operations increases and tool

	downtime and unnecessary parts replacements can be significantly reduced." *See* Applied E3 FDC Datasheet. As a further example, using the adjusted weighting, Applied E3 FDC diagnoses a fault condition and implement measures to reduce unscheduled downtime and product scrap, as shown below: "Detect and Diagnose. Engineers can construct classification models to define root cause based on fault detection alarms with the E3 FDC strategy engine. This strategy engine provides a dashboard with extensive tools for analyzing various data sources. With the dashboard, engineers can drag and drop data collections into data views, reuse previous analysis templates, access all types of data in the repository and add comments to run data. The FDC solution also provides a vast library of univariate and multivariate analysis tools for developing detailed diagnostic models. These models can detect problems with equipment and provide predictive maintenance capabilities that reduce unscheduled downtime and product scrap. The strategy engine also includes support for limits management and offers extensive data filtering capabilities to eliminate false positives." *See id.* As a further example, Applied E3 R2R "optimiz[es] process parameters from one run to the next," as shown below:

	E3 R2R improves processing performance and reduces process variability by optimizing process parameters from one run to the next. This example control chart shows a drifting process in furnace thickness uniformity that was corrected after making an adjustment. PROCESS PARAMETER OPTIMIZATION  *See id.*